Summary of 2013 3rd Quarter Fatal Accidents at Metal/Nonmetal Mines with Preventative Recommendations

Four miners in the metal and nonmetal the mining industry were killed as a result of accidents from July 1 to September 30, 2013.

Two miners are dead as a result of **Powered Haulage** accidents. One miner died in a **Machinery** accident and one miner was killed due to a **Falling/Sliding Material** accident.

When completed, a detailed investigation report on each fatality is posted on the MSHA website at http://www.msha.gov/fatals/fab.htm.

In metal/nonmetal, fatalities continue to occur that could be prevented using Lock Out Tag Out best practices. Two of the fatalities this quarter could have been prevented by disconnecting the power and assuring it is off, having each miner on the job lock the power source in the safe position, using his or her personal safety lock and tag to prevent the power from being reenergized.

Here is a brief summary of these accidents:

Two persons were killed in Powered Haulage accidents.

A 58-year old truck driver with 25 years of experience was killed at a crushed stone operation. The victim was driving a loaded haul truck out of a quarry when the truck traveled through a berm and over an 80-foot highwall. The victim was ejected from the truck.

A 31-year old laborer with 14 years of experience was killed at a dimension stone operation. The victim was operating a 2½ ton truck up a steep roadway. He was hauling water tanks in the bed of the truck when the load shifted and the truck overturned, crushing him.

One miner was killed in a Falling/Sliding Material accident.

A 56-year old front-end loader operator with 16 years of experience was killed at a crushed stone operation. The victim was attempting to remove a rock from a pug mill hopper when he was engulfed by the material in the hopper.

One miner was killed in a Machinery accident.

A 55-year old plant manager with 5 years of experience was killed at a crushed stone operation. The victim looked into an operating crusher at the same time that a tooth broke free from an excavator bucket, was ejected from the crusher and struck him.

Best Practices

While some of the specific circumstances of these accidents remain under investigation, here are best practices that we can identify at this time to prevent accidents like these in the future:

Powered Haulage Accidents

These deaths can be prevented by following these Best Practices:

- Provide and maintain adequate berms or guardrails on the banks of roadways where a drop-off exists.
- Conduct adequate pre-operational checks prior to operating mobile equipment.
- Always wear a seat belt when operating self-propelled mobile equipment.
- Maintain control of self-propelled mobile equipment.
- Operate mobile equipment at speeds consistent with the conditions of roadways, tracks, grades, clearance, visibility, curves, and traffic.
- Do not exit or jump from moving mobile equipment.
- Task train mobile equipment operators and ensure they demonstrate proficiency in all phases of mobile equipment operation before performing work.
- Conduct adequate pre-operational checks prior to operating mobile equipment.
- Ensure that loads are stable and secured before transporting.
- Never exceed equipment manufacturer's load limits.

Falling/Sliding Material Accidents

These deaths can be prevented by following these Best Practices:

- Establish and discuss policies and procedures for safely clearing a hopper.
- Equip hoppers with mechanical devices or other effective means of handling material so persons are not required to work where they are exposed to entrapment by sliding material.
- Install a heavy screen (grizzly) to control the size of material and prevent clogging.
- Task train persons to recognize all potential hazardous conditions and to understand safe job procedures for elimination of the hazards before beginning work.
- Before working on or near equipment, ensure that the discharge operating controls are deenergized and locked out.
- Wear a safety harness and lanyard, which is securely anchored and tended by another person, prior to entering bins, hoppers, tanks, or silos.

Machinery Accidents
These deaths can be prevented by following these Best Practices:

- Establish and discuss policies and procedures for safely clearing a cone crusher. Consider a mechanical method for clearing material to minimize exposure to persons performing the work.
- Task train persons to recognize all potential hazardous conditions and to understand safe job procedures for elimination of the hazards before beginning work.
- Before working on or near equipment, ensure the equipment power is off and locked out/tagged out. Ensure the equipment has been securely blocked against hazardous motion to ensure energy cannot be released while performing work.
- Always maintain equipment in a safe operating condition.
- Provide a safe means of access for persons required to maintain a cone crusher.
- Provide guards, shields, or other devices to protect persons from the hazard of flying or falling materials generated from the operation of screens, crushers, or conveyors.
- Implement measures to ensure persons are properly positioned and protected from hazards while performing a task.

Violations of the priority standards identified as **Rules to Live By** continue to be cited during investigations of mine fatalities. While not all of the fatality investigations have been completed and enforcement action taken, Rules to Live By standards continue to be identified in many of those fatalities. During inspections, MSHA's inspectors continue to discuss, with miners and supervisors, the root causes of these fatalities and the ways to prevent recurrences.

The importance and value of effective **Safety and Health Management Programs** helps send miners home safely at the end of their shifts. A thorough, systematic review of all tasks and equipment to identify hazards is the foundation of a well-designed safety and health management program. Many root causes of fatal accidents show that management policies, procedures, and controls were inadequate and failed to ensure that persons were protected from hazards that could have been identified and then eliminated or controlled. Mine operators and contractors need to implement effective safety and health management programs and periodically review, evaluate, and update them. If an accident or near miss occurs, find out why and act to prevent a recurrence. If changes to equipment, materials, or work processes introduce new risks into the work environment, address them immediately.

Conducting **Workplace Examinations** every shift can prevent deaths when safety and health hazards are **found and fixed**. Miners are protected when workplace examinations are performed, problems are identified, and hazards are eliminated.

Training

All of the miners killed during the 3rd quarter of 2013 had 5 or more years of experience, yet they were involved in fatal accidents. Providing effective and appropriate training to miners, including experienced miners, is a key element in ensuring their safety and health. Mine operators and Part 46 and Part 48 trainers need to train miners and mine supervisors to take appropriate measures to eliminate the conditions that lead to deaths and injuries.

While mining deaths and injuries have reached historic lows, more actions are needed to prevent additional injuries and deaths. Printable posters addressing the common causes of these accidents can be found on the Alerts/Hazards section of MSHA's website, www.msha.gov. Fatalgrams describing each fatality and Best Practices to prevent a recurrence can also be found on the agency's website.

Miners deserve a safe and healthy workplace and the right to go home safe and healthy at the end of every shift, every day. Working together makes that happen.